

Remarks:

The above amendments and these remarks are responsive to the Office action dated March 10, 2006. In the Office action, claims 9-12 and 42-45 were allowed, and claims 1-5, 7, 13, 14 and 13 were rejected as being anticipated by Butterworth, U.S. Patent No. 6,624,756. Claims 1, 10, 13, 38 and 43 are amended. Claims 10 and 43, although allowed, have been amended to provide in terms. Claims 1-5, 7, 9-14, 38 and 42-45 remain pending in the application. Applicants respectfully traverse the rejections under 35 U.S.C. §102.

In view of the amendments above, and the remarks below, applicants respectfully request reconsideration of the application under 37 C.F.R. § 1.111 and allowance of the pending claims.

Rejections under 35 U.S.C. §102

Claims 1-5, 7, 13, 14 and 13 were rejected as being anticipated by Butterworth, U.S. Patent No. 6,624,756. Butterworth discloses a display device including a spatial light modulator 40. The spatial light modulator includes a reflective pixellated electrode 113, a substrate 117 on which electrode 113 is formed, a transparent electrode 111, control circuitry 121, light intensity sensors 107 and layered liquid crystal material 115. Electrode 113 is divided into a two-dimensional array of modulating elements or picture elements, pixels 30, that define the spatial resolution of the display device. See col. 3, lines 21-23 and col. 9, lines 32-34. Color imaging is provided by a single light source, as shown in Fig. 11, having a rotating color sequencer 9 or wheel 18 with colored windows that only allow light of particular colors to pass when placed in the light path.

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An alternative configuration is the use of three spatial light modulators 40 as shown in Fig. 14 with separate concurrent light bands formed by dichroic plates 48, 50 and 52.

Claim 1, as amended, is directed to a display device comprising a spatial light modulator having a two-dimensional array of modulating elements forming a plurality of two-dimensional multi-pixel image regions; a light generator configured to direct a different one of a plurality of separate light bands onto each of the plurality of image regions; and a controller including a spatial image separator configured to assign received image information to a corresponding one of the image regions, the controller being configured to control modulation of the spatial light modulator appropriate to produce a separate multi-pixel image in each image region.

Butterworth discloses directing each of three colored light bands onto a respective one of three separate light modulators, or a single light band onto an entire single light modulator, with the light band changing color over time. Each light modulator is a conventional two-dimensional array of individual pixels or modulating elements 30. Butterworth does not disclose "a spatial light modulator having a two-dimensional array of modulating elements forming a plurality of two-dimensional multi-pixel image regions," and "a light generator configured to direct a different one of a plurality of separate light bands onto each of the plurality of image regions" of the one array.

For at least the foregoing reasons, Butterworth does not disclose or suggest the display device recited in claim 1. Claim 1 thus is allowable over Butterworth and the rejection of claim 1 under 35 U.S.C. §102 must be withdrawn. Claims 2-5 and 7 depend

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from claim 1, and thus are distinguishable from Butterworth for at least the same reasons as claim 1. Claims 2-5 and 7 thus are allowable over Butterworth and the rejection of claims 2-5 and 7 also must be withdrawn.

Claim 13 is directed to a display device comprising a light source configured to produce multi-spectral light; a spatial light modulator configured to modulate light received in a plurality of regions according to component images of a received composite image; an optical separator configured to separate multi-spectral light into a plurality of separate and differently colored light bands, and to direct each of the light bands onto a respective one of the regions of the array; an optical combiner configured to combine the modulated light bands into a composite light band; and a controller configured to control modulation of the spatial light modulator appropriate to produce differently colored multi-pixel component images of a multi-pixel composite image, the controller including a spatial image separator configured to assign received image information to a corresponding one of the image regions based on color.

Similar to the remarks relating to claim 1, Butterworth does not disclose an optical separator configured to separate multi-spectral light into a plurality of differently colored light bands, and to direct each of the light bands onto a respective one of the two-dimensional regions of the one array.

For at least the foregoing reasons, Butterworth does not disclose or suggest the display device recited in claim 13. Claim 13 thus is allowable over Butterworth and the rejection of claim 13 under 35 U.S.C. §102 must be withdrawn. Claim 14 depends from claim 13, and thus is distinguishable from Butterworth for at least the same reasons as

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claim 13. Claim 14 thus is allowable over Butterworth and the rejection of claim 14 also must be withdrawn.

Claim 38 is directed to a display device comprising a spatial light modulator having a two-dimensional array of modulating elements configured to spatially modulate incident light; and a controller configured to control modulation of the spatial light modulator appropriate to produce a differently-colored multi-pixel component image, in each of a plurality of separate two-dimensional image regions of the array of modulating elements according to received image information, the multi-pixel component images corresponding to images of different colors that when combined by concurrently displaying them on the same region of a display medium, form a multi-pixel composite color image, where the controller further includes a spatial image separator configured to assign received image information to a corresponding one of the image regions to produce a corresponding multi-pixel component image in the image region.

Butterworth discloses only modulating an entire array of modulating elements of a spatial light modulator to form an image. Butterworth does not disclose a controller configured to control modulation of the spatial light modulator appropriate to produce a differently-colored multi-pixel component image, in each of a plurality of separate two-dimensional image regions of a single array of modulating elements according to received image information, in which the multi-pixel component images correspond to images of different colors that when combined, by concurrently displaying them on the same region of a display medium, form a multi-pixel composite color image.

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For at least the foregoing reasons, Butterworth does not disclose or suggest the display device recited in claim 38. Claim 38 thus is allowable over Butterworth and the rejection of claim 38 under 35 U.S.C. §102 must be withdrawn.

Conclusion

Applicants believe that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

Respectfully submitted,

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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on June 12, 2006.

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